(19) World Intellectual Property Organization International Bureau



# 

(43) International Publication Date 10 January 2002 (10.01.2002)

### (10) International Publication Number WO 02/02862 A3

D06M 15/41, (51) International Patent Classification7: 15/263, 15/643, 15/227, 15/233

PCT/US01/18210 (21) International Application Number:

(22) International Filing Date: 6 June 2001 (06.06.2001)

(25) Filing Language:

(26) Publication Language:

English

English

(30) Priority Data: 09/607,667

30 June 2000 (30.06.2000)

(71) Applicant: 3M INNOVATIVE PROPERTIES COM-PANY [US/US]; 3M Center, Post Office Box 33427. Saint Paul, MN 55133-3427 (US).

- (72) Inventors: CHANG, John, C.; Post Office Box 33427, Saint Paul, MN 55133-3427 (US). NIXON, Angela, J.; Post Office Box 33427, Saint Paul, MN 55133-3427 (US). DUNSMORE, Irvin, F.; Post Office Box 33427, Saint Paul, MN 55133-3427 (US).
- (74) Agents: KOKKO, Kent, S. et al.; Office of Intellectual Property Counsel, Post Office Box 33427, Saint Paul, MN 55133-3427 (US).

- (81) Designated States (national): AE, AG, AL, AM, AT, AT (utility model), AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ (utility model), DE, DE (utility model), DK, DK (utility model), DM, DZ, EC, EE, EE (utility model), ES, FI, FI (utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

#### Published:

- with international search report
- (88) Date of publication of the international search report: 23 May 2002

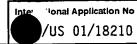
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



(54) Title: TREATMENT OF FIBROUS SUBSTRATES WITH SILSESQUIOXANES AND STAINBLOCKERS

(57) Abstract: This invention relates to a method for imparting soil-resistant, stain-resistant and optional water-repellent properties to fibrous substrates (such as carpet fibers) by applying an acidic, aqueous treating composition containing at least one silsesquioxane, at least one stainblocker to the substrate. The composition may further contain a metal salt and/or a fluorochemical or hydrocarbon repellent material.

### INTERNATIONAL SEARCH REPORT



A. CLASSIF IPC 7	FICATION OF SUBJECT MATTER D06M15/41 D06M15/263 D06M15/643	D06M15/227	D06M15/233						
According to	International Patent Classification (IPC) or to both national classification and I	PC							
B. FIELDS	SEARCHED								
Minimum do	Minimum documentation searched (classification system followed by classification symbols)								
Documentati	Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched								
Electronic da	ata base consulted during the international search (name of data base and, w	here practical, search te	erms used)						
EPO-Internal, WPI Data, PAJ									
C. DOCUME	ENTS CONSIDERED TO BE RELEVANT								
Category °	Citation of document, with indication, where appropriate, of the relevant pass	sages	Relevant to claim No.						
A	US 4 781 844 A (KORTMANN WILFRIED ET 1 November 1988 (1988-11-01) the whole document	AL)	1-12						
A	US 3 677 810 A (CAMPBELL JAMES K ET AL 18 July 1972 (1972-07-18) the whole document	-)	1-12						
A	US 5 073 442 A (ELGARHY YASSIN ET AL) 17 December 1991 (1991-12-17) the whole document	)	1-12						
P,X	US 6 225 403 B1 (KNOWLTON BARRY R) 1 May 2001 (2001-05-01) claims 1,6,10,11,15-18; table 4		1,5-9						
1		•							
Further documents are listed in the continuation of box C.    X   Patent family members are listed in annex.									
Special ca     'A' docume consider     'E' earlier of filling of the which citation     'O' docume other     'P' docume later the consider of the consideration of the consid	ter the international filing date onflict with the application but neighe or theory underlying the ance; the claimed invention all or cannot be considered to then the document is taken alone ance; the claimed invention volve an inventive step when the none or more other such docupeing obvious to a person skilled arme patent family								
		te of mailing of the intern $01/02/2002$	нанопан search героп						
	21 January 2002								
Name and	mailing address of the ISA  European Patent Office, P.B. 5818 Patentlaan 2  NL - 2280 HV Rijswijk  Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.  Fax: (+31-70) 340-3016	horized officer							

## INTERNATIONAL SEARCH REPORT

information on patent family members

	inte	'ional	Application No
		/US	01/18210

No. of the control of					
Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 4781844	A	01-11-1988	DE	3307420 A1	13-09-1984
			DE	3461660 D1	22-01-1987
			EP	0121078 A1	10-10-1984
US 3677810	Α	18-07-1972	AT	353740 B	26-11-1979
			AT .	771371 A	15-05-1979
			BE	772087 A1	02-03-1972
			CA	953857 A1	03-09-1974
			СН	559278 A5	28-02-1975
			СН	568437 B5	31-10-1975
			CH	1284371 A	30-05-1975
	•		DE	2144337 A1	09-03-1972
			FR	2105222 A5	28-04-1972
			GB	1367666 A	18-09-1974
			IT	941703 B	10-03-1973
			JP	53019709 B	22-06-1978
			NL	7112123 A ,B	07-03-1972
			US	3714287 A	30-01-1973
US 5073442	Α	17-12-1991	CA	1327856 A1	15-03-1994
			CH	689367 A3	31-03-1999
			BE	1007018 A5	21-02-1995
			DE	4138382 A1	27-05-1993
			FR.	2683836 A1	21-05-1993
			GB.	2260994 A ,B	05-05-1993
			GB	2260995 A ,B	05-05-1993
US 6225403	B1	01-05-2001	NONE		